

# **PHENIX**

# **WEEKLY PLANNING**

10/23/2008

Don Lynch

# IR Configuration for remainder of shutdown

October				November				December				January				
5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25

**Run Position 10/20 - 10/31**  
(CM & MMS moved north WC west)



**Station 1 south access 11/3-12/12**  
(MMS moved south WC west)



**Station 1 north access 12/15-12/31**  
(CM moved south, WC west)



**East Carriage Install 1/2-1/15**  
(CM moved north, EC & WC opt.)



**Run Position 1/16-1/19**  
(MMS moved north, EC & WC opt)



**Ready for run 9 1/19-2/1**  
(MuID Collars Installed, EC & WC opt.)



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October				November				December				January				
5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25

Run Position 10/15 - 10/31  
(CM & MMS moved north WC west)




Move CM & MMS north 10/20-10/21 <DONE>


MuTrigger S rack ass'y <DONE>

RPC proto rack assy by 10/15 <Ready for Installation>

water & Elec prep 10/17-10/31 

RPC2 proto gas system by 10/31 

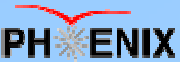
RPC proto cable by 10/31  
routing & support 

Install RPC2 prototype 10/20-10/31 

PC1 West repairs 10/20-10/31 



# Shutdown '08 Schedule



October    November    December    January  
 5 12 19 26    2 9 16 23 30    7 14 21 28    4 11 18 25

**Station 1 south access 11/3-12/12**  
 (MMS moved south WC west)



**Move MMS south 11/2**



**Install sta 1. S Scaffolds 11/3-11/7**



**HBD Installation (west) 11-3-11/10**  
**(east) 12/17-12/31**



**MuTrigger FEE 11/10-11/14**  
**Sta 1 S chasis install**



**Sta 1, 2 & 3 chasis 11/10-11/14**  
**Water & air**



**Install/test cards 10/2-11/30**  
**sta 2&3 N and sta 1, 2 & 3 S**



**Install Lead absorber 11/17-11/21**



**Install FEE S rack platform 11/17-11/21**  
**And racks**



**FEE S Cabling & Testing 11/24-11/29**



**MuTr sta 1 S Decaps 12/1-12/12**



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10/23/08

# Shutdown '08 Schedule

October				November				December				January				
5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25

Station 1 north access 12/15-12/31  
(CM moved south, WC west)



Remove Sta 1 S 11/24-12/18  
And Sta 2/3 N scaffolds



Move CM south 12/18



Install MMS lampshade 12/18-12/21



Install MMN lampshades 12/18-12/31



October November December January

5 12 19 26 2 9 16 23 30 7 14 21 28 4 11 18 25

East Carriage Install 1/2-1/15  
(CM moved north, EC & WC opt.)

Install EC 1/2-1/15

Run Position 1/16-1/19  
(MMS moved north, EC & WC opt.)

Move MMS North 1/16

Ready for run 9 1/19-2/1  
(MuID Collars Installed, EC & WC opt.)

DC East/West Repairs 1/16-2/1

Install MuID Collars 1/19-1/21

Pink/Blue/White Sheets 1/16-2/1

Close Shield Wall 126-1/30

Cryo Start Up, Start Physics 2/1-2/18





## Other On going Tasks

October				November				December				January				
5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25

Fan Tray Maintenance (fill in)



RPC3 Prototype install (by 12/31)  
(including assembly at factory,  
Moving tunnel shielding, modify  
Crystal palace & vapor barrier,  
RPC3 install, rack, install  
scintillators, services & testing)



RPC Factory Support

Dark Current test stand



Storage Racks with humid. Cntrl



Prep for 2009 Shutdown  
(as time permits)



Gas Mixing house UPS by 11/30



October November December January  
5 12 19 26 2 9 16 23 30 7 14 21 28 4 11 18 25

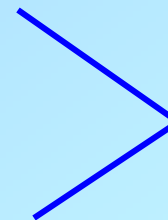
Rack room electronics, etc.



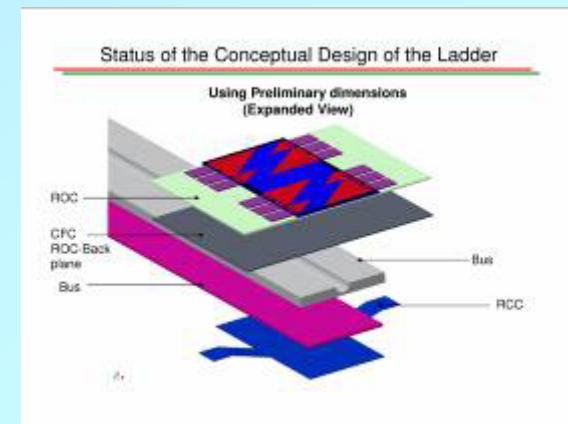
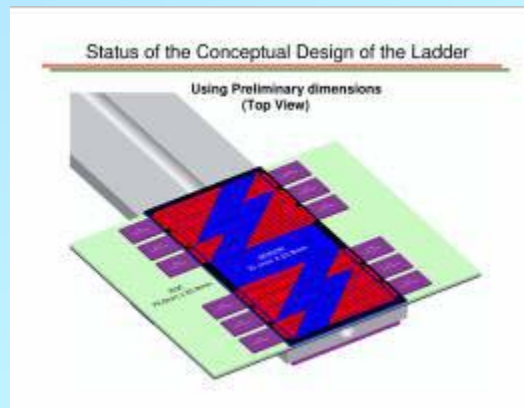
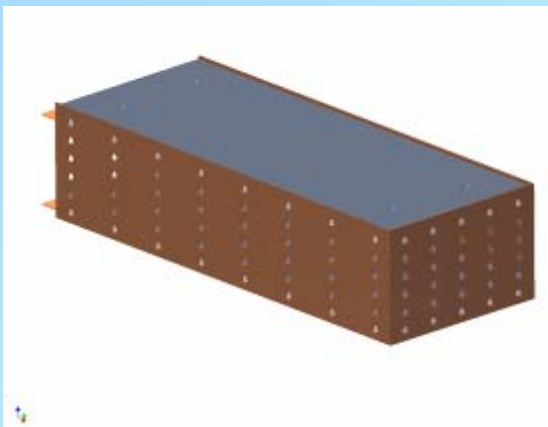
Build new storage 10/1-11/15  
crates



NCC prototype design support  
HBD support  
VTX fabrication tooling design  
VTX installation design  
FVTX design/engineering support



As Required





# Shutdown '08 Electrician Work

- \*Run Power to new MuTrgr FEE racks on MMS. *by 10/31 Start work Monday 10/27*
- \*Install 120 volt AC power drops into new control room annunciator alarm rack (rack room). *Completed*
- \*Re-wire ToF Rack power distribution bucket in Gas Mixing House. This is to correct minor wiring errors. *By 10/31/08*
- \*Install new UPS in Gas mixing house. *By 11/30*
- \*Walk down PHENIX Electrical Distribution Panels/Breakers and update changes on the electrical one-line drawings. *Complete by 11/30/08.*
- \*Install power and signal cable tray (ceiling suspended) for new DCM rack row - north of existing DCM racks. *To Be Scheduled*
- \*Assist in signal and LV cable installation for MuTr/RPC upgrades as necessary. *MuTrgr North Done, MuTrgr South & RPC Prototype to be scheduled*
- \*Repair Duct heaters for Control Room. *Temporary 15 KW Heater installation in progress. 6 week parts lead time for duct heater repair - CAD work.*
- \*Upgrade power capacity of Central Magnet power distribution for future bridge rack loads.
- \*Remove existing 15KVA transformer and install 45KVA unit.
- \*Install new (larger size) power cable from rack room to Central Magnet distribution breaker panels.  
REMOVE THIS ITEM----SCHEDULE NEXT YEAR

*Lower priority not required for run 9, to be scheduled when manpower available and operations & projects inconvenience are minimized*

# 1008 Building Maintenance Issues

- Roof leak in utility bathroom at northwest corner behind tech offices.
- Roof leak over door between rack room and assembly hall.
- New Carpet for Control Room (next Tuesday ?)
- Trailer bathroom slop sink (for Custodians).
- Heat wrap tape for trailer bathroom toilet drains to prevent freeze/clogging in winter.
- New duct heater (In progress)
- Improved Rack Room AC performance

# MuTrigger FEE South & RPC Prototype Racks

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Both Racks ready for installation

# MuTrigger FEE North Sta. 2 & 3 PC Board installation and cable connections continue

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10/23/08



# Transforming IR from Sta 1 N access to Run Position

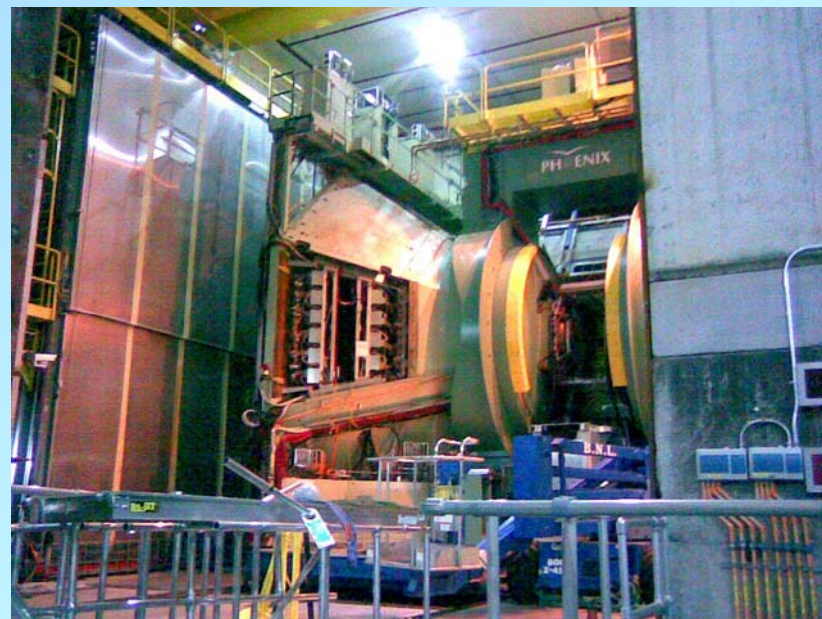


Station 1 scaffolding removed in large chunks and temporarily stowed in AH until needed for Sta. 1 S

# Transforming IR from Sta 1 N access to Run Position



CM moved north, some cable interference issues to be resolved when Sta. 1 N open



MMS moved north. Magnets now in Run Position until Nov. 3



## PC1 West Repairs

Optional PC1 West Upper South FEM repairs not performed. Access from ladder is not possible, will require custom accedd design. Possible offseason work



DC opened for access to PC1 West. Lower north FEM repaired successfully



## RPC2 Prototype Installation



*Note: AGS substation 3F @ 912A  
Power to be shut down 10/25  
0900-1000 for  
Normal/Emergency  
Power transfer test. This will  
affect the factory/tent*

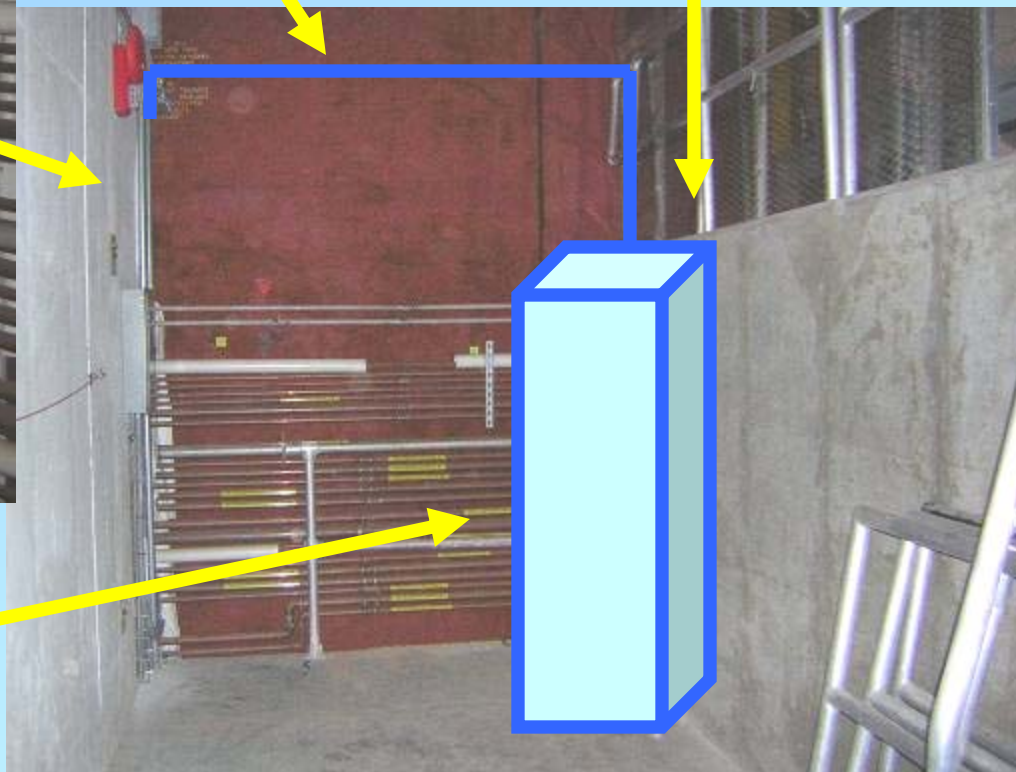
RPC prototypes will be  
ready for installation as  
follows: RPC3 <TBD>,  
RPC2: 10/20

## RPC2 Prototype Rack



Power bridges  
across to Rack

Cable tray runs on  
edge of pedestal  
floor to rack



Rack goes here



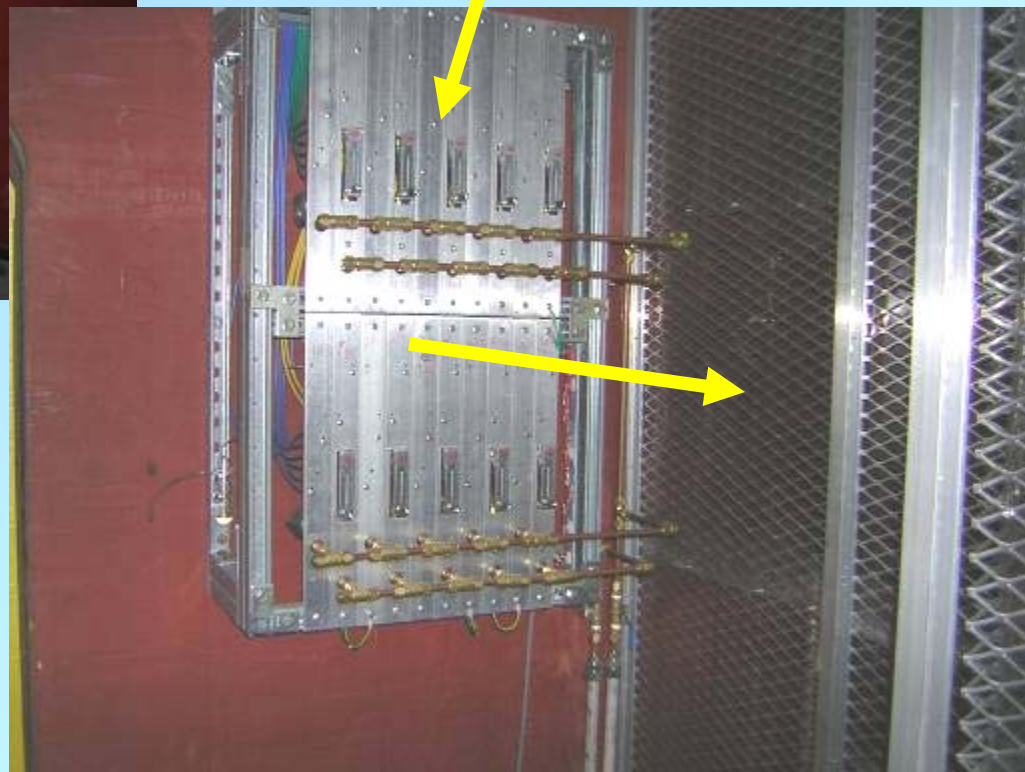
## RPC2 Prototype Installation

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Cables go under magnet to west side of pedestal

Gas flow rack and gas lines to be taken off MuID steel and moved to crystal palace wall



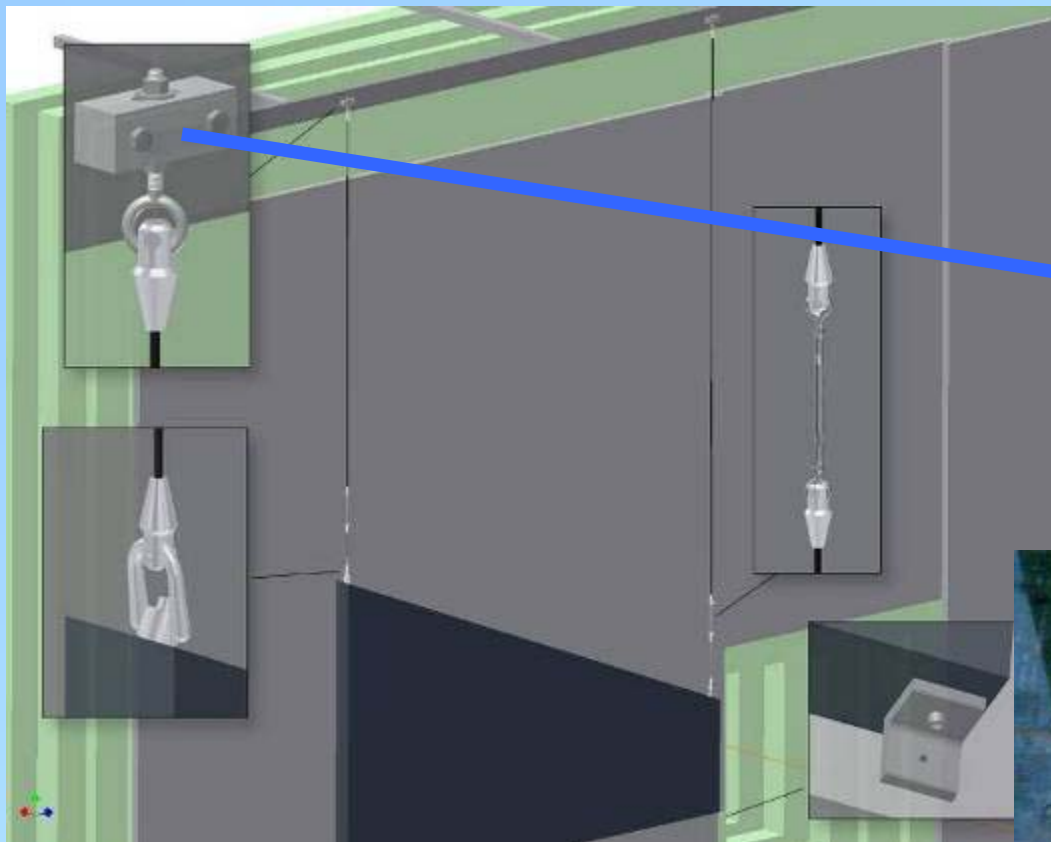
10/23/08

# RPC2 Prototype Installation

Scheduled for 10/20-10/31

Pre Survey today

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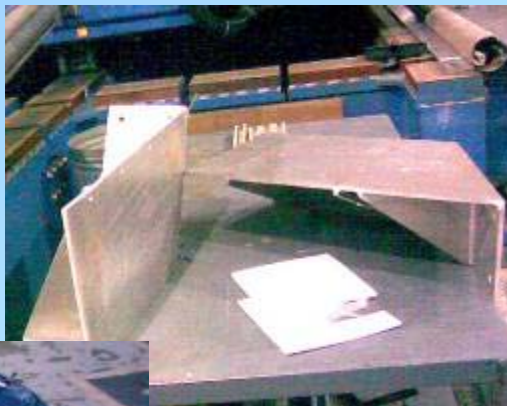
10/23/08

## RPC2 Prototype Installation: Scintillators

- 4 pairs of scintillation counters
- each pair consists of a ~1" thick and a ~1/2" thick scintillator
- active area ~ 2" x 2" ; Length ~10" with phototube and shielding
- Weight is ~ 4 lb per pair.
- To be positioned in South tunnel uniformly distributed around the beam pipe at approximately 3, 6, 9 and 12 O'clock at a radially convenient location which overlaps the RPC3 prototype
- Z location is south of RPC3 as close as possible but at most 12" away (for the 3 O'clock pair, others to match z-position)
- Detectors require 2.5 kV to be run from IR.
- 16 channel signal, also to be run from IR
- Rack support is TBD



# RPC Absorber



RFQ placed with CS

J. Scott will deliver  
120 2x4x8 rad clean  
and painted lead  
bricks, on skid to  
1008 by 10/15

Don, Jimmy, Kenny,  
Carter, John and  
Mike L. must take  
TQ-LEAD1 (web  
course) by 10/15

Checking into lead  
cutting at SUNYSB

Work permit req'd

We need 80 2x4x8 and 28 2x4xZ, where  
Z is 13 different lengths of varying  
quantities between 1-1/2" and 6-3/4"

## RPC2 Factory Storage area



Dark Current  
Test Stand  
components  
received.



RPC group to dispose of shipping  
containers and left over equipment to  
keep storage area uncluttered.



Gap and Module storage plan written and  
will be made a part of the overall RPC  
factory plan.



# Scaffolding Crates

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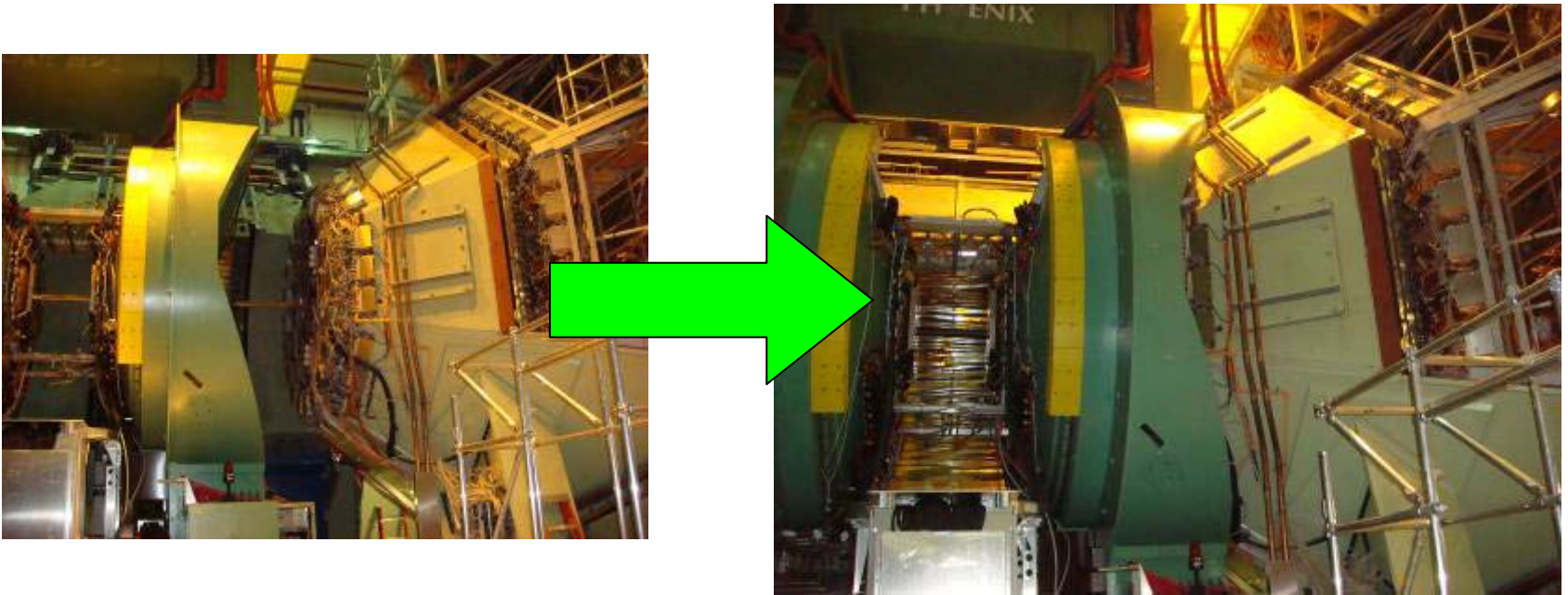
Existing Crates for Sta 2/3N scaffolds are severely rotted and need to be replaced with weather resistant materials.

Sta. 1 scaffolds do not have storage crates. These need to be built of similar materials. All dimensions of crates are available.

# Status of MuTrigger FEE Installation



# The Central Magnet was moved



- Jimmy has found 2 chassis (Oct 6 & 8) is touching the central magnet  
->should be replaced in December when the magnet opens
- The gain of MuTR does not change after the magnet was moved, however the noise level has become higher at some point  
->perhaps due to the cable connection, we must investigate

# Progress for this week

- Installed ADTX - MuTR FEE cables at Oct 2, 3, 4 St 2, 3 (Itaru & Ken'ichi)
- Tested 57 boards, which cover Oct 2, 3, 4 St 2, 3 (Ken'ichi)
- Installed 57 boards and wired fibers (Jimmy)
- For the empty slots of MuTRG chassis, put panels to prevent dusts (Jimmy)

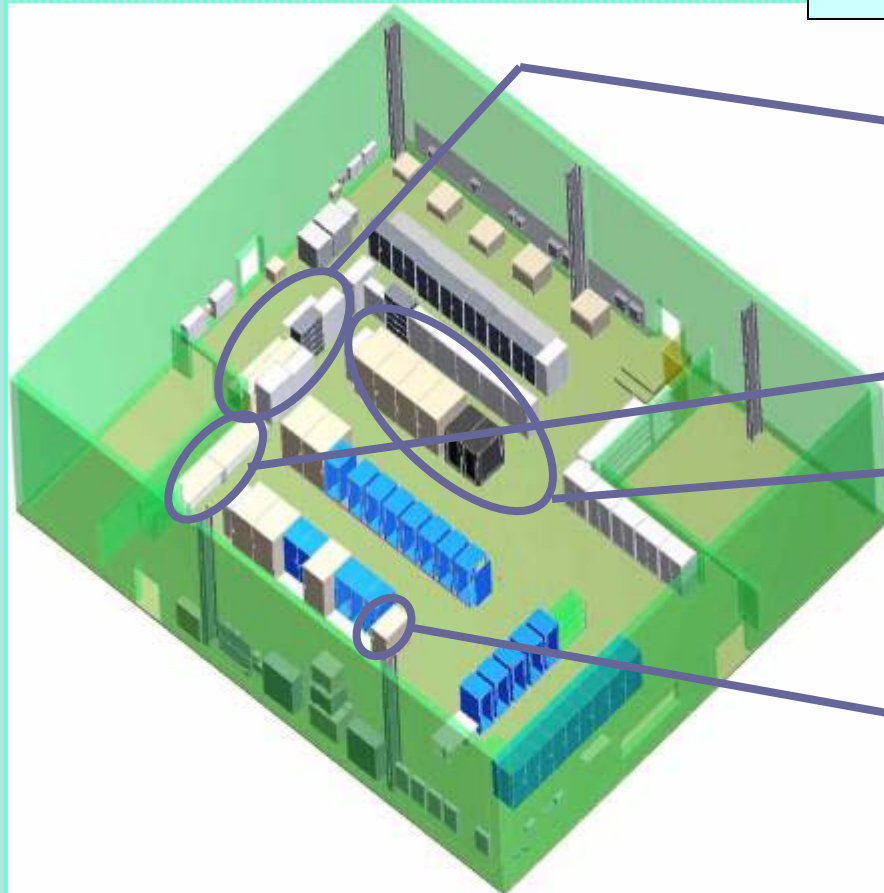




# Status & Next Thing To Do

- Little difference of the noise level & the gain of MuTR after installing ADTX boards at St 2, 3 (Oct 2, 3, 4) when ADTX LV is off  
->must test with ADTX LV being on
- Check installed ADTX boards using local DAQ

# Rack Room Reorganization



Remove Workbench, relocate desk, file cabinet & 3 storage cabinets

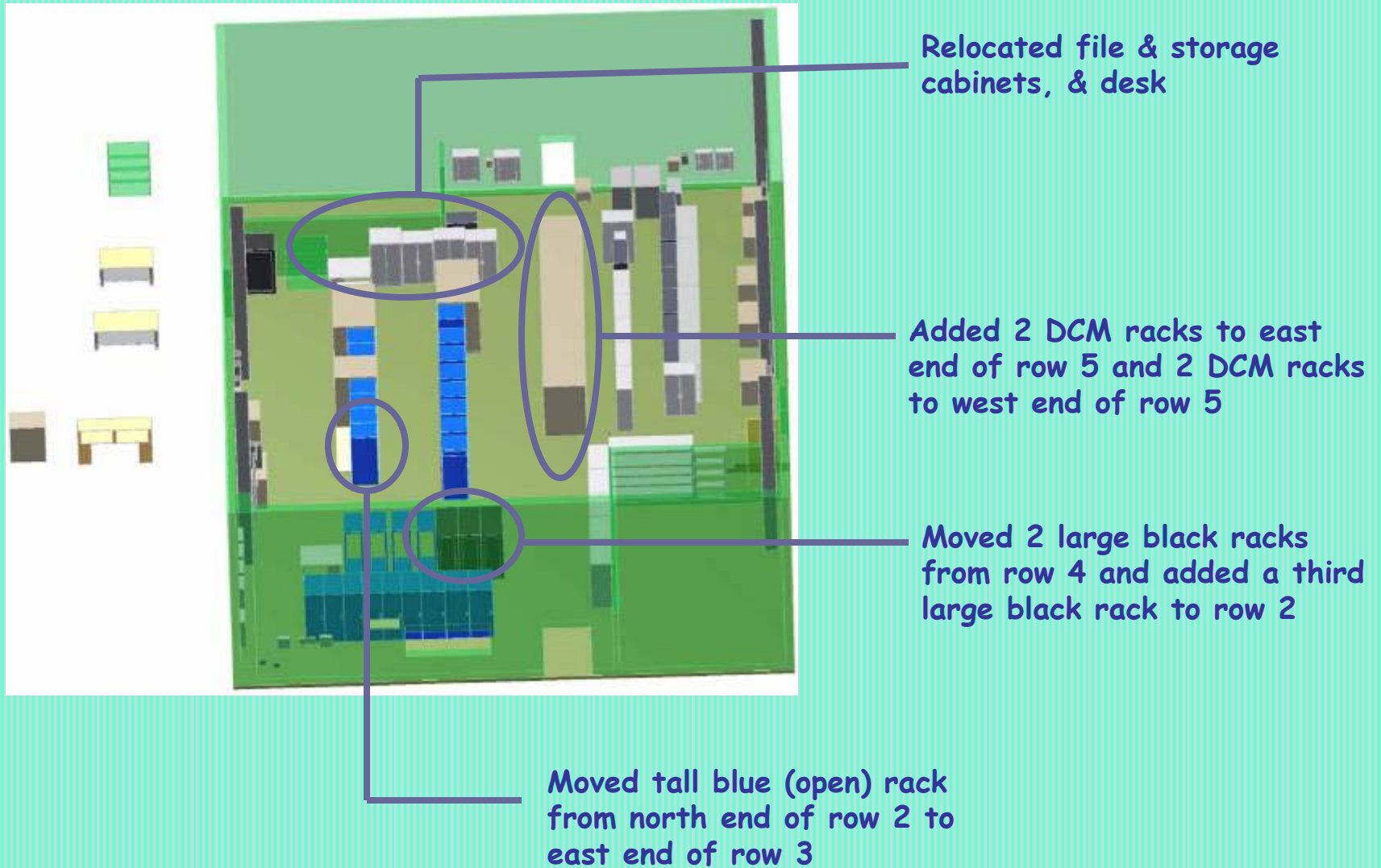
Remove 2 workbenches, replace with desk (see above)

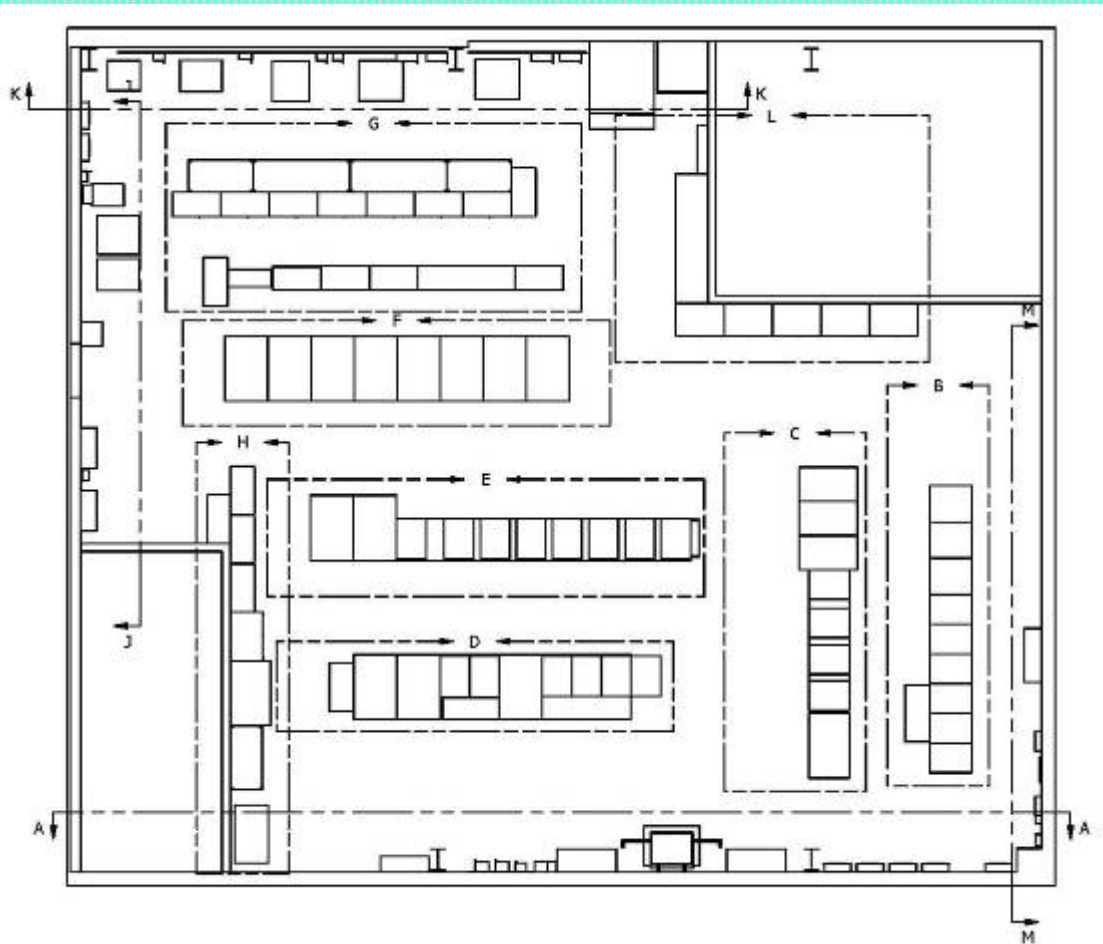
Relocate storage rack at west end, relocate 2 black racks to end of row 2, add 2 large DCM water cooled racks to both east and west end of this row

Remove short rack replace with tall blue rack from end of row 2

Rack Room Layout as of 10/01/08

## Proposed Reorganization





Section A-A: South Wall

Detail B: Row 1

Detail C: Row 2

Detail D: Row 3

Detail E: Row 4

Detail F: Row 5

Detail G: Rack Room Row 6&7 Storage

Detail H West (Laser Room Wall)

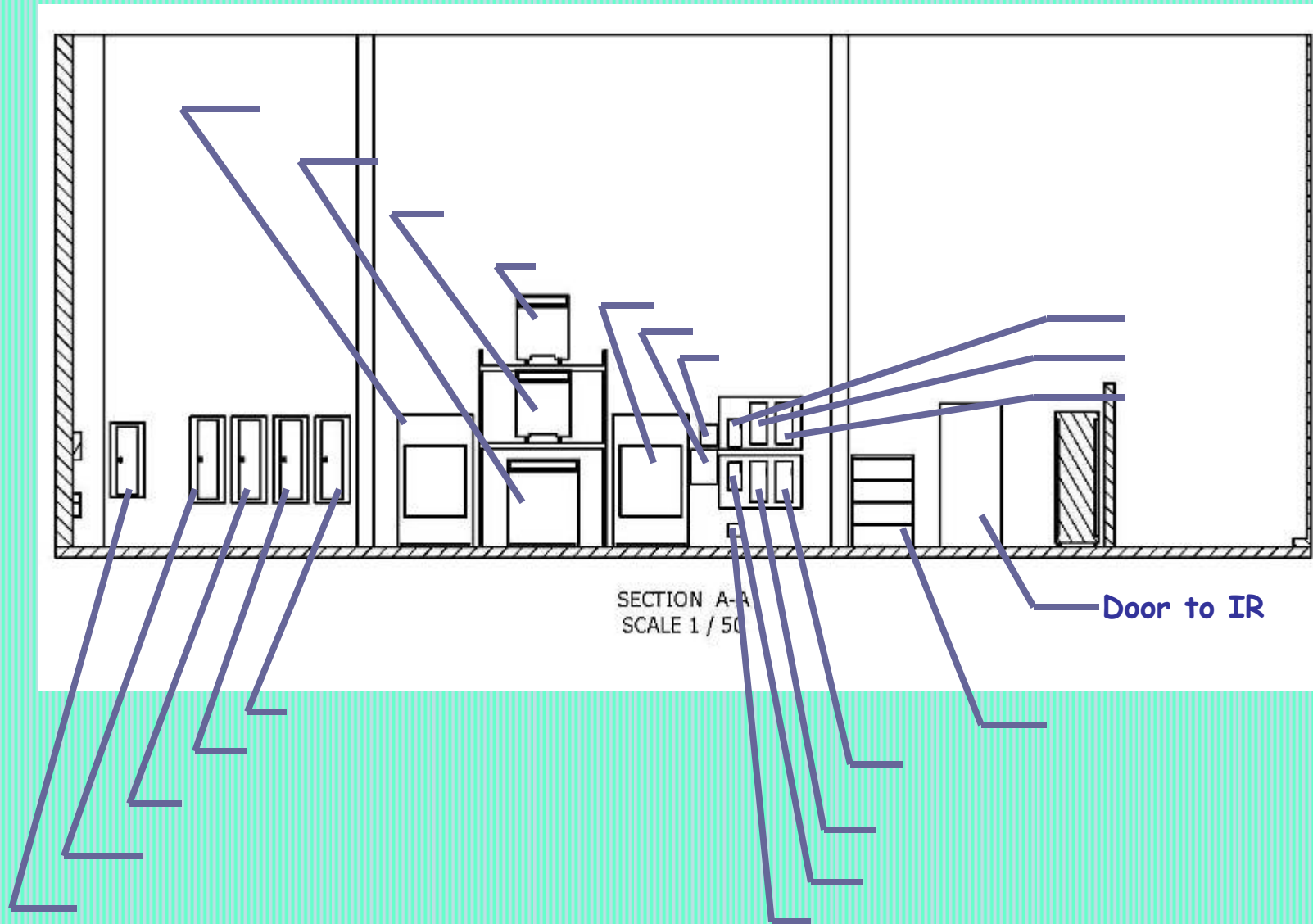
Section J-J West Wall

Section K-K North Wall

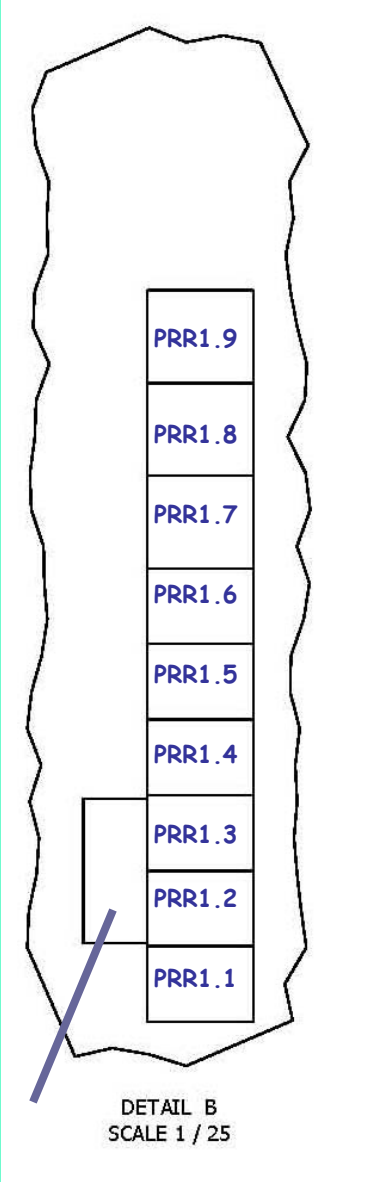
Detail L North & East Machine Shop Walls

Section M-M East Wall

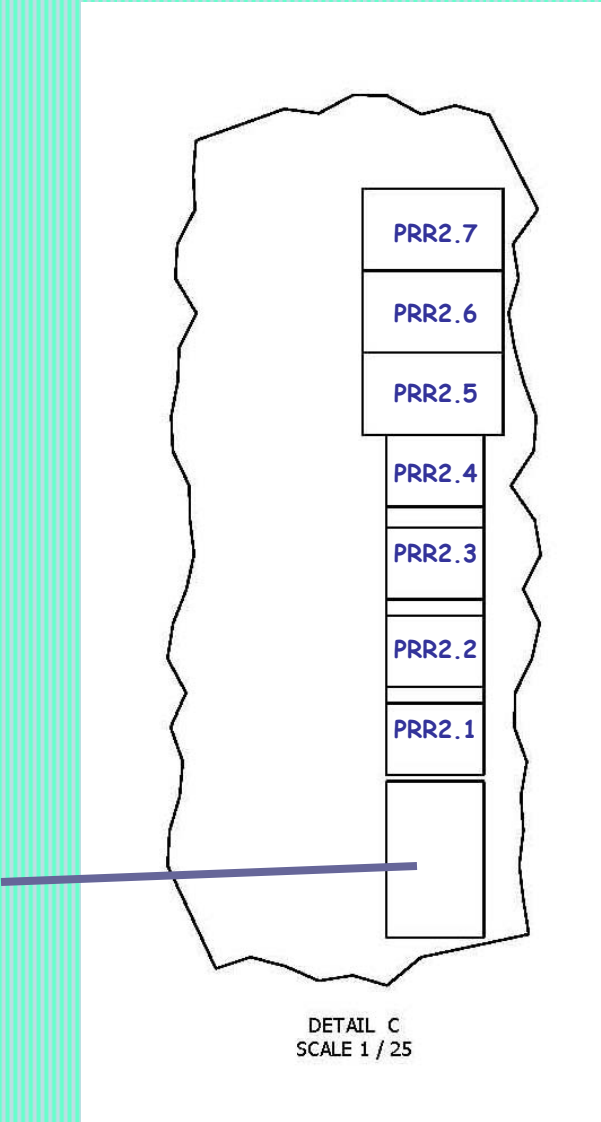
# PHENIX Rack Room South Wall



PHENIX Rack Room Row 1

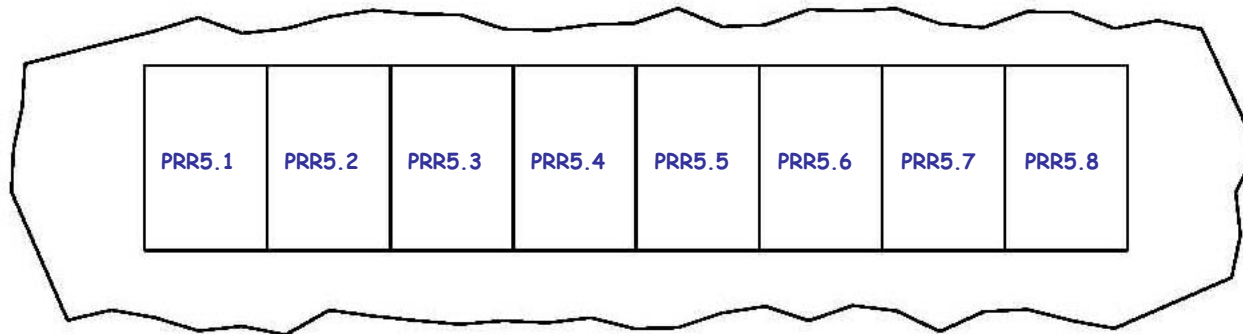


PHENIX Rack Room Row 2





## PHENIX Rack Room Row 5

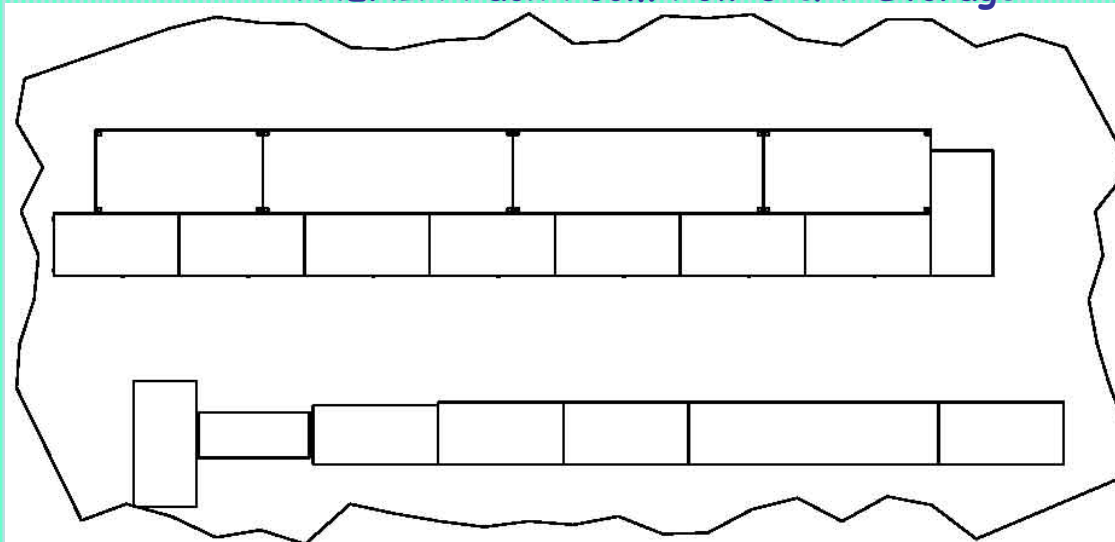


DETAIL F  
SCALE 1 / 25



Need to tee off supply and returns for 2 racks in each of these 2 positions

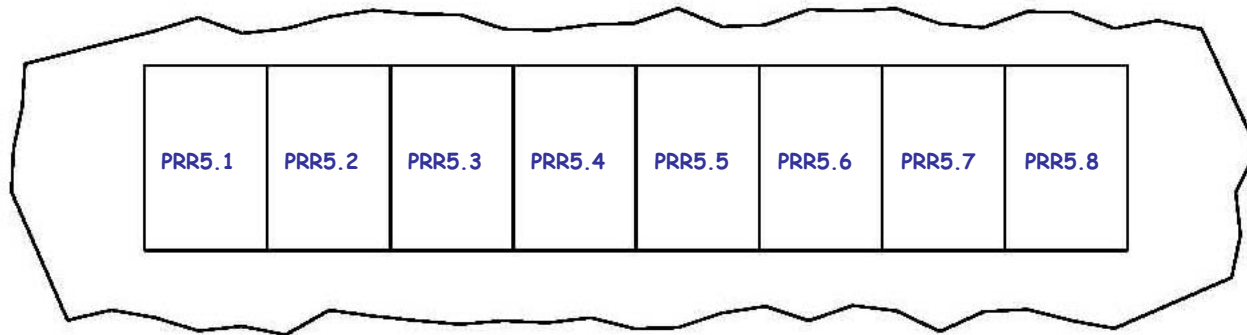
## PHENIX Rack Room Row 6 & 7 Storage



DETAIL G  
SCALE 1 / 25

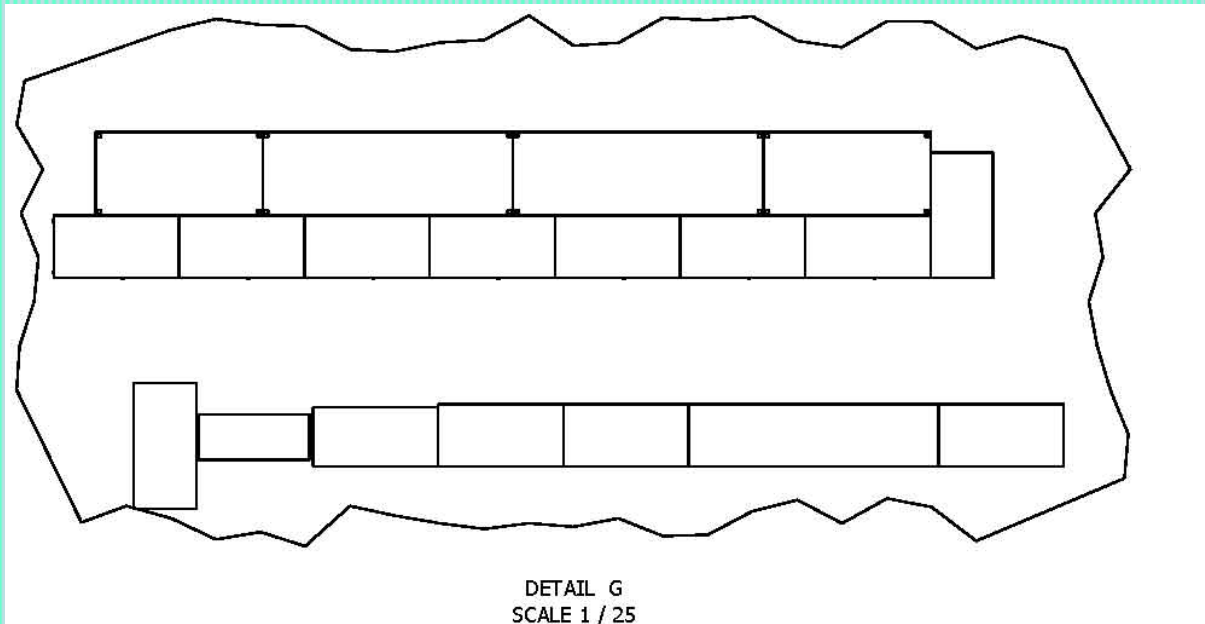


## PHENIX Rack Room Row 5



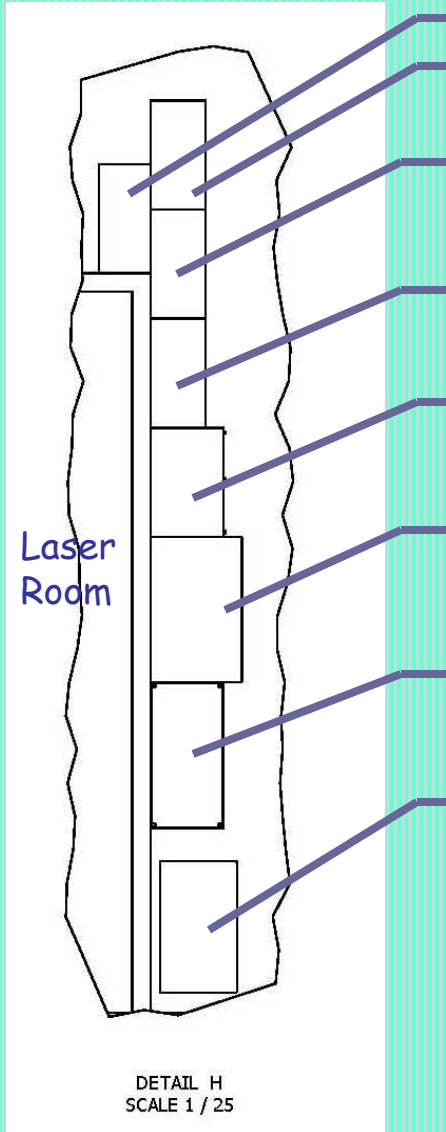
DETAIL F  
SCALE 1 / 25

## PHENIX Rack Room Row 6 & 7 Storage

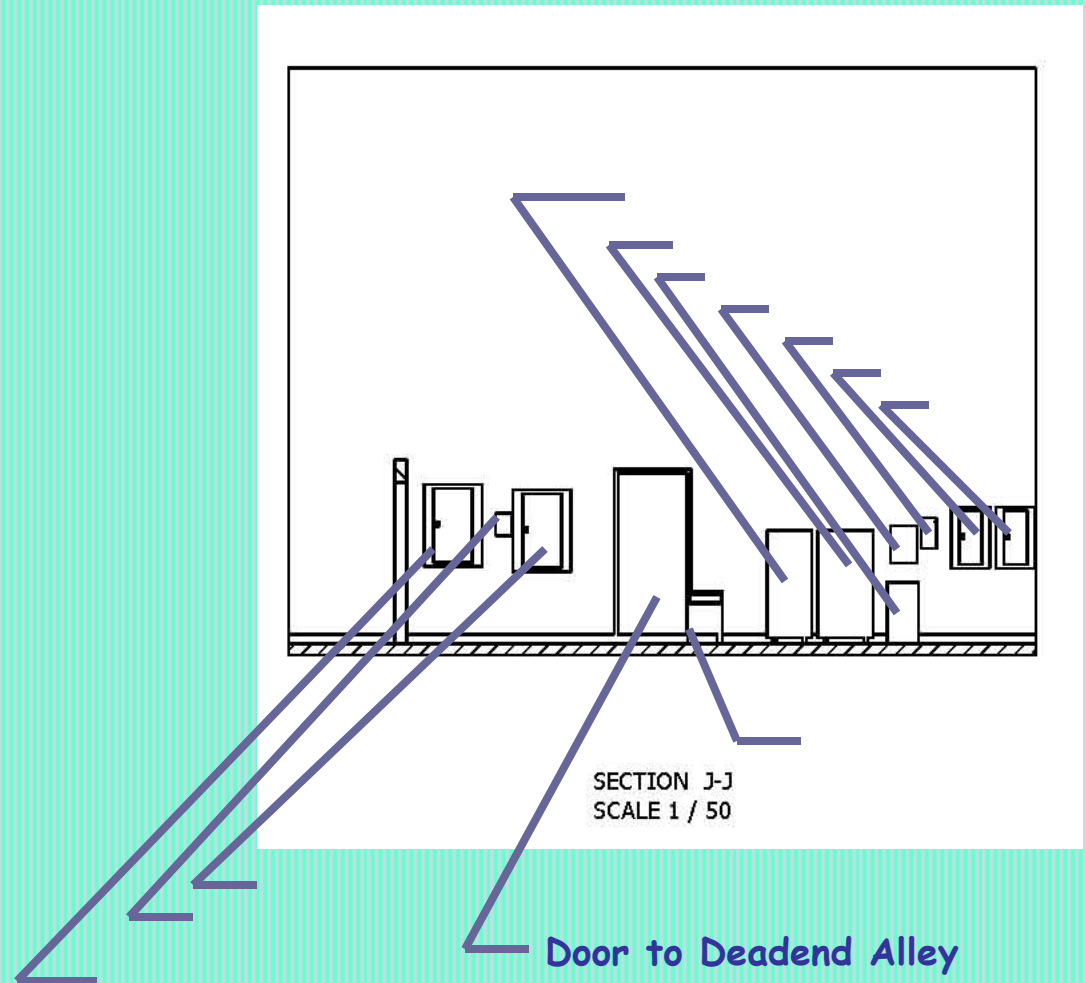


DETAIL G  
SCALE 1 / 25

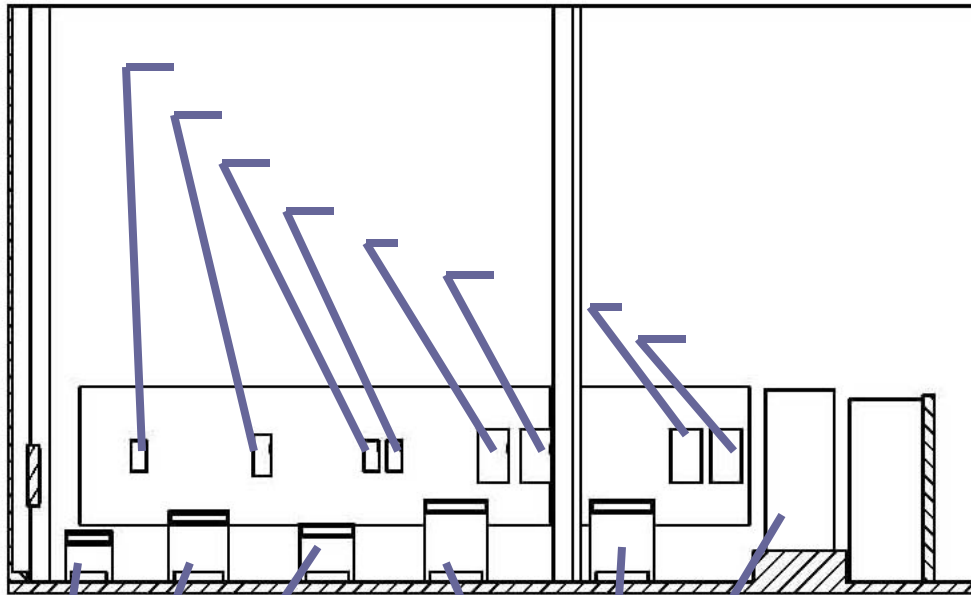
## PHENIX Rack Room West (Laser Room) Wall



## PHENIX Rack Room West (Rear) Wall

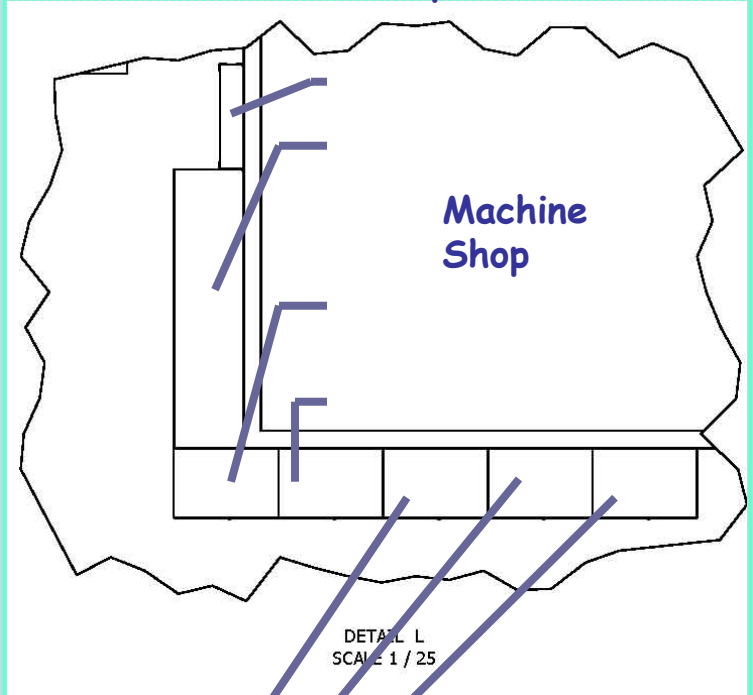


PHENIX Rack Room North Wall



SECTION K-K  
SCALE 1 / 50

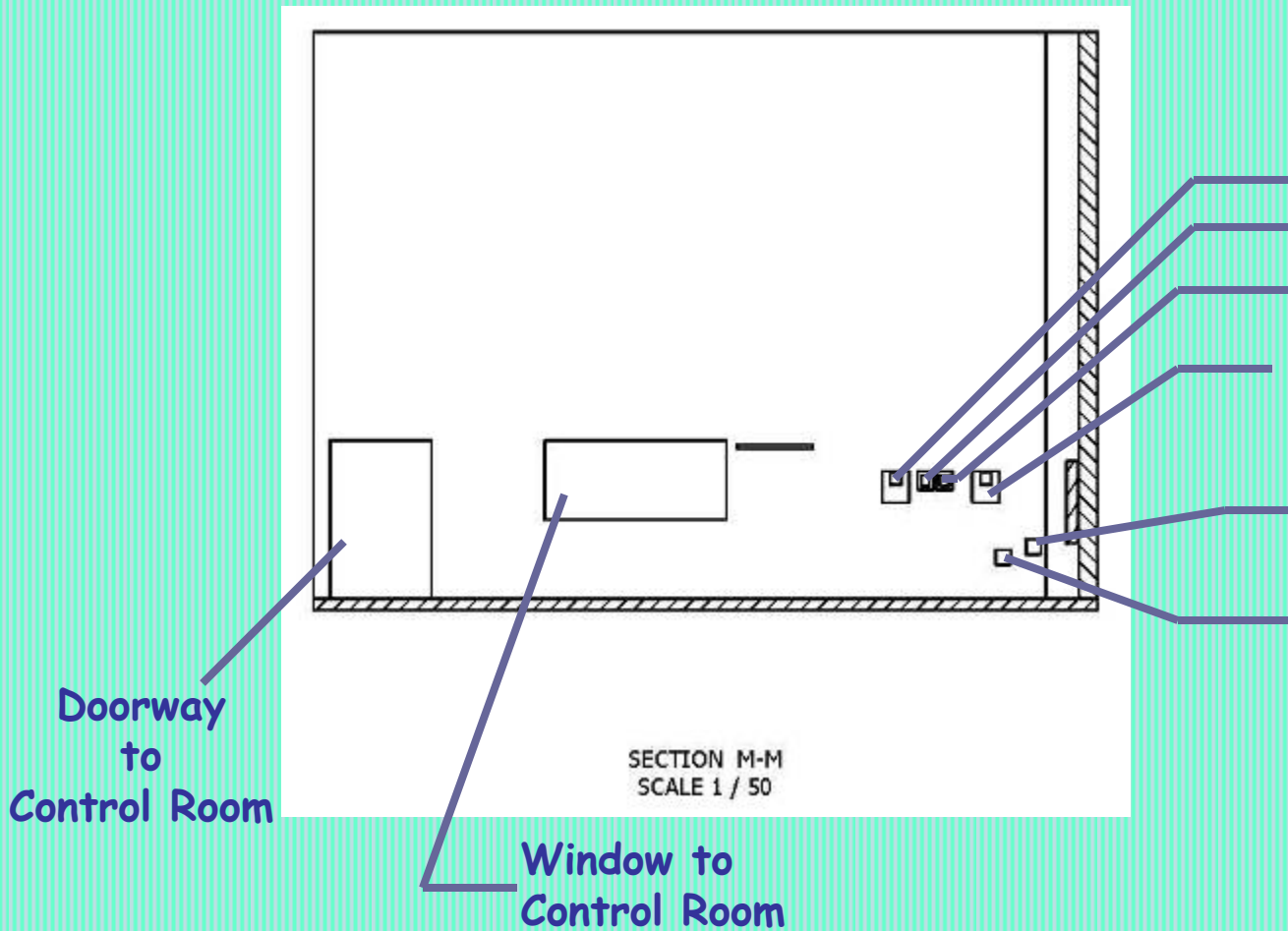
PHENIX Rack Room North & East  
Machine Shop Walls



DETAIL L  
SCALE 1 / 25



## PHENIX Rack Room East Wall



1. CA-D Human Performance training offered to experiments. Required for all CAD personnel. Human performance committee formed, goals being planned. Will be required for all BNL personnel. (full day course, on site) Next classes 11/5 & 11/12.
2. BNL has an Electrical Safety Program Area website that has a lot of information about electrical codes and safety including safety program links on the upper right side of the page and FAQs at the left side. The link is below:

[http://www.bnl.gov/esh/shsd/Programs/Program\\_Area\\_Electrical\\_Safety.asp](http://www.bnl.gov/esh/shsd/Programs/Program_Area_Electrical_Safety.asp)

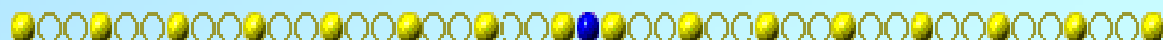
3. 10 point Safety at PHENIX:
  - a) Planning: Daily informal walk thru/talk thru
  - b) Planning: Weekly PHENIX planning meetings (Thursdays)
  - c) Planning: Weekly CA (Mondays)
  - d) Planning: Work Permits
  - e) Planning: Standard operating procedures
  - f) Training: JTA's, requirements, optional
  - g) Training: PHENIX Awareness & CA access
  - h) Empowerment: PHENIX Technical Staff enforces rules, backed by PM
  - i) Feedback: group self assessment
  - j) Continual improvement

# Where To Find PHENIX Engineering Info



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Links for the weekly planning meeting slides, long term planning, pictures, videos and other technical info can be found on the web site:



[http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL\\_SSint-page.htm](http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm)